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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/844,640

04/27/2001

Pieter Meijer

01735493

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7590

11/01/2004

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EXAMINER

PERILLA, JASON M

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/844,640

Applicant(s)

MEIJER ET AL.

Examiner

Jason M Perilla

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/27/01.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Claims 1-14 are pending in the instant application.

#### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on April 27, 2001 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

#### ***Drawings***

4. The drawings are objected to because the blocks are not properly text labeled such that the components are identifiable to aid in the understanding of the invention. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in

the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

5. Claims 1-14 are objected to because of the following informalities:

Regarding claim 1, the claim is objected to because it contains several informalities. For instance, the phrases "the signal delay" and "the occurrence of multipath distortion" in line 6 are lacking antecedent basis. Further, the use of "said antenna selective switching means" and "said switching means" are used interchangeably in the claim. It is noted that the use of the term "signal delay" is considered improper by the examiner according to the embodiment of the invention described by the specification. The delay is a delay of time rather than a signal delay which implies a delay of some type of an RF signal. Further, the use of the phrase "coupling one of the plurality of antennas" in line 7, is open to various interpretations and is not plainly supported by the specification. It is suggested, for instance, that the Applicant identifies a time difference or delay between the occurrence of multipath and the activation of the switching means to provide a more definite definition. The claim should be amended by the Applicant to overcome these formal matters as follows:

1. An antenna diversity receiver comprising:

an antenna selective switching means for coupling one of a plurality of antennas to a RF receiver input; and

a multipath detector for controlling said antenna selective switching means including a switching disabling means for automatically disabling said antenna selective switching means when ~~the signal a~~ delay between ~~the an~~ occurrence of multipath distortion in a RF reception signal and the activation of said antenna selective switching means for coupling one a plurality of antennas to the RF receiver input exceeds a predetermined critical ~~signal~~ delay value.

Regarding claim 2, in line 3, "critical signal delay" should be replaced by --critical delay--, in line 4, "said switching means" should be replaced by "said antenna switching means", and, in line 5, "the bandwidth" should be replaced by --a bandwidth--.

Regarding claim 8, in line 8, "the signal delay" should be replaced by "the delay" for the same reasons as applied to claim 1 above. Further, in line 8, "of multipath in" should be replaced by --of a multipath signal in--, and, in line 9, "and the coupling of a plurality" should be replaced by --and the activation of the antenna selective switching means for coupling one of the plurality--. In line 10, "critical signal delay" should be replaced by "critical delay".

Regarding claim 9, in line 4, "critical signal delay" should be replaced by --critical delay--, and, in line 7, "the critical bandwidth" should be replaced by --a critical bandwidth--.

Appropriate correction is required.

***Allowable Subject Matter***

6. The indication of allowable subject matter is made regarding claims 1-14.

7. The following is a statement of reasons for the indication of allowable subject matter:

Claims 1-14 are indicated to contain allowable subject matter because the prior art of record does not anticipate or obviate the limitation of disabling the antenna switching according to a delay between the detection of a multipath signal and the completion of an antenna coupling as included in independent claims 1 and 14. While the prior art of record (i.e. US 4878252 to Sessink; US 4726073 to Sessink; US 4499606 to Rambo; US 4566133 to Rambo) may teach a multipath or noise detection hysteresis to disable unwanted antenna switching due to noise factors (i.e. ignition noise), they do not disclose or teach the disabling of switching due to an amount of delay between the detection of a multipath signal and the coupling of an antenna.

### ***Conclusion***

8. This application is in condition for allowance except for the following formal matters:

The claim objections above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art of record is cited to show the state of the art with respect to antenna diversity receivers.

U.S. Pat. No. 4878252 to Sessink.  
U.S. Pat. No. 4726073 to Sessink.  
U.S. Pat. No. 4499606 to Rambo.  
U.S. Pat. No. 4566133 to Rambo.  
U.S. Pat. No. 4525869 to Hamada et al.  
U.S. Pat. No. 4864642 to Ueno et al.  
U.S. Pat. No. 439704.1 to Takeda et al.  
U.S. Pat. No. 4255816 to Grunza et al.  
U.S. Pat. No. 5818543 to Lee N.  
U.S. Pat. No. 5379449 to Porambo P.  
U.S. Pat. No. 5548836 to Taromaru.  
U.S. Pat. No. 5634204 to Takahashi et al.  
U.S. Pat. No. 5603107 to Gottfried et al.  
U.S. Pat. No. 5241701 to Andoh.  
U.S. Pat. No. 5201072 to Kobayashi.  
U.S. Pat. No. 4811330 to Ohe et al.  
U.S. Pat. No. 4495653 to Hamada.  
U.S. Pat. No. 5918164 to Takahashi et al.  
U.S. Pat. No. 5339452 to Sugawara.  
U.S. Pat. No. 5940454 to McNicol et al.  
U.S. Pat. No. 5263190 to Taniguchi et al.  
U.S. Pat. No. 4977615 to Suzuki et al.

U.S. Pat. No. 4942622 to Takayama et al.


U.S. Pat. No. 4926498 to Suzuki et al.

U.S. Pat. No. 4821042 to Ohe et al.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (571) 272-3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason M. Perilla  
October 18, 2004

jmp



CHIEH M. FAN  
PRIMARY EXAMINER